

Who is most at risk of HIV infection? Detailed data tables and technical notes

Technical notes:

Background on HIV reporting system

On January 1, 1999, the Massachusetts Department of Public Health (MDPH) started requiring clinical providers to submit case report forms with demographic and exposure risk information and lab results about individuals diagnosed with HIV infection, as they had been doing for AIDS since 1983. Existing cases of HIV infection diagnosed through 1998 also were to be reported by the end of 1999. These cases are labeled “pre-1999” in the following analyses. New as well as previously diagnosed HIV infections continue to be reported. When comparing pre-1999 HIV diagnoses to HIV diagnoses 1999 through 2006, one should consider the differences in HIV reporting requirements for these two time periods. Since HIV infection diagnoses were not reported at the time of diagnosis prior to 1999 and clinical providers were given a relatively short time frame within which to report all prevalent HIV cases, the pre-1999 data are considered less complete than data reported after 1999. Additionally, pre-1999 HIV infection diagnoses do not include people who were diagnosed with HIV infection and who died before 1999 without being reported with AIDS, nor do they include individuals who were no longer receiving HIV-related health care in Massachusetts at the point when HIV (non-AIDS) reporting became mandatory.

On January 1, 2007, the MDPH changed its method for reporting HIV infection diagnoses from a code-based system to a name-based system. Although the previous code-based system was performing well, federal law is changing the way the state receives funding for HIV/AIDS services. In order to avoid losing federal funding, Massachusetts was required to change to a name-based system for HIV infection diagnosis reporting. This is the same way that AIDS cases have been reported to MDPH since 1983. The change will also allow the federal government to better understand the HIV/AIDS epidemic at the national level and target funds since HIV cases in addition to AIDS cases will now be counted for all states and territories. No names, however, will be reported to the federal government.

Caveats of the data

While trends in diagnosis of HIV infection are our best indicator for those who are most at risk of HIV infection, HIV surveillance reflects the incidence of diagnoses among people who are in care and not the actual incidence of new infections. Like AIDS diagnoses, HIV infection diagnoses are not a direct measure of incidence of infection. People may be living with HIV infection for many years prior to being tested and seeking care, at which point the case is considered a “diagnosis” and reported to the MDPH HIV/AIDS Surveillance Program. Furthermore, as with early data for AIDS cases, the data from the first few years of a new reporting system can be unstable, and caution should be used in interpretation, as there is a greater likelihood that fluctuations in data

are attributable to reporting patterns and clinician education efforts rather than actual changes in disease incidence.

Additionally, one must consider the effects of reporting lag when reviewing the preliminary 2006 HIV infection diagnoses. Although Massachusetts regulations require providers to submit HIV case reports in a timely fashion, many 2006 HIV infection diagnoses will be reported to the surveillance program after the release of this Epidemiologic Profile. Additionally, it is likely that the effects of reporting lag have been exacerbated with the change from code to name-based reporting requirements. As many Massachusetts providers who report HIV diagnoses are still transitioning to the new requirements, the 2006 HIV diagnoses data are far more preliminary than one would typically expect by November 1, 2007. Thus, the 2006 HIV data presented in this report may represent a substantial undercount. Although the data that follow report a decline in the number of HIV infection diagnoses in the past year, it is possible that the true incidence of HIV infection diagnosis has declined only slightly or perhaps has reached a plateau. Analyses suggest that the distribution of HIV infection diagnoses by race/ethnicity, gender and exposure mode for cases reported more than six months after diagnosis is not substantially different than the distribution of HIV cases reported within six months.

Table 1. People diagnosed with HIV infection by gender and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	Male		Female		Total
	N	%	N	%	
< 1999	15,788	77%	4,667	23%	20,455
1999	922	70%	404	30%	1,326
2000	824	70%	359	30%	1,183
2001	720	71%	300	29%	1,020
2002	735	68%	346	32%	1,081
2003	661	69%	302	31%	963
2004	681	70%	291	30%	972
2005	653	74%	231	26%	884
2006 ²	516	74%	184	26%	700

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
² 2006 data are preliminary
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 2. People diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	White NH		Black NH		Hispanic		API		AI/AN		Total ²
	N	%	N	%	N	%	N	%	N	%	
< 1999	11,312	55%	4,788	23%	4,185	20%	102	<1%	27	<1%	20,455
1999	565	43%	392	30%	338	25%	20	2%	3	<1%	1,326
2000	461	39%	403	34%	284	24%	27	2%	2	<1%	1,183
2001	423	41%	328	32%	238	23%	26	3%	2	<1%	1,020
2002	423	39%	360	33%	260	24%	23	2%	2	<1%	1,081
2003	383	40%	314	33%	241	25%	13	1%	0	0%	963
2004	371	38%	315	32%	257	26%	16	2%	1	<1%	972
2005	337	38%	295	33%	228	26%	18	2%	1	<1%	884
2006 ³	306	44%	200	29%	179	26%	10	1%	2	<1%	700

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Totals include people with unspecified race/ethnicity³ 2006 data are preliminary

NH = Non-Hispanic, API = Asian/Pacific Islander, AI/AN = American Indian/Alaskan Native

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 3. Males diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	White NH		Black NH		Hispanic		API		AI/AN		Total ²
	N	%	N	%	N	%	N	%	N	%	
< 1999	9,525	60%	3194	20%	2,937	19%	86	1%	18	<1%	15,788
1999	446	48%	232	25%	227	25%	12	1%	1	<1%	922
2000	375	46%	227	28%	192	23%	25	3%	0	0%	824
2001	347	48%	182	25%	166	23%	21	3%	1	<1%	720
2002	349	47%	188	26%	172	23%	15	2%	2	<1%	735
2003	327	49%	168	25%	152	23%	10	2%	0	0%	661
2004	323	47%	174	26%	166	24%	11	2%	0	0%	681
2005	299	46%	173	26%	161	25%	15	2%	1	<1%	653
2006 ³	262	51%	109	21%	133	26%	10	2%	1	<1%	516

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Totals include people with unspecified race/ethnicity³ 2006 data are preliminary

NH = Non-Hispanic, API = Asian/Pacific Islander, AI/AN = American Indian/Alaskan Native

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 4. Females diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	White NH		Black NH		Hispanic		API		AI/AN		Total ²
	N	%	N	%	N	%	N	%	N	%	
< 1999	1,787	38%	1,594	34%	1,248	27%	16	<1%	9	<1%	4,667
1999	119	29%	160	40%	111	27%	8	2%	2	<1%	404
2000	86	24%	176	49%	92	26%	2	1%	2	1%	359
2001	76	25%	146	49%	72	24%	5	2%	1	<1%	300
2002	74	21%	172	50%	88	25%	8	2%	0	0%	346
2003	56	19%	146	48%	89	29%	3	1%	0	0%	302
2004	48	16%	141	48%	91	31%	5	2%	1	<1%	291
2005	38	16%	122	53%	67	29%	3	1%	0	0%	231
2006 ³	44	24%	91	49%	46	25%	0	0%	1	1%	184

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Totals include people with unspecified race/ethnicity³ 2006 data are preliminary

NH = Non-Hispanic, API = Asian/Pacific Islander, AI/AN = American Indian/Alaskan Native

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 5. People diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	US		Puerto Rico/ US Dependency ²		Non-US		Total
	N	%	N	%	N	%	
< 1999	15,823	77%	2,545	12%	2,087	10%	20,455
1999	906	68%	172	13%	248	19%	1,326
2000	751	63%	131	11%	301	25%	1,183
2001	640	63%	114	11%	266	26%	1,020
2002	644	60%	104	10%	333	31%	1,081
2003	607	63%	91	9%	265	28%	963
2004	610	63%	102	10%	260	27%	972
2005	542	61%	84	10%	258	29%	884
2006 ³	449	64%	58	8%	193	28%	700

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Ninety-seven percent of all people diagnosed with HIV infection in MA who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands, <1% were born in American Samoa, and 2% were born in an unknown dependency³ 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 6. Males diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	US		Puerto Rico/ US Dependency ²		Non-US		Total
	N	%	N	%	N	%	
< 1999	12,514	79%	1,820	12%	1,454	9%	15,788
1999	673	73%	117	13%	132	14%	922
2000	555	67%	94	11%	175	21%	824
2001	474	66%	80	11%	166	23%	720
2002	482	66%	68	9%	185	25%	735
2003	466	70%	51	8%	144	22%	661
2004	485	71%	61	9%	135	20%	681
2005	441	68%	63	10%	149	23%	653
2006 ³	354	69%	45	9%	117	23%	516

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Ninety-seven percent of all people diagnosed with HIV infection in MA who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands, <1% were born in American Samoa, and 2% were born in an unknown dependency³ 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 7. Females diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	US		Puerto Rico/ US Dependency ²		Non-US		Total
	N	%	N	%	N	%	
< 1999	3,309	71%	725	16%	633	14%	4,667
1999	233	58%	55	14%	116	29%	404
2000	196	55%	37	10%	126	35%	359
2001	166	55%	34	11%	100	33%	300
2002	162	47%	36	10%	148	43%	346
2003	141	47%	40	13%	121	40%	302
2004	125	43%	41	14%	125	43%	291
2005	101	44%	21	9%	109	47%	231
2006 ³	95	52%	13	7%	76	41%	184

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Ninety-seven percent of all people diagnosed with HIV infection in MA who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands, <1% were born in American Samoa, and 2% were born in an unknown dependency³ 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 8. People diagnosed with HIV infection by exposure mode and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ²		Undeter- -mined ³		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	7,609	37%	7,184	35%	865	4%	2,044	10%	773	4%	1,333	7%	647	3%	20,455
1999	373	28%	396	30%	38	3%	195	15%	17	1%	244	18%	63	5%	1,326
2000	357	30%	248	21%	24	2%	196	17%	19	2%	263	22%	76	6%	1,183
2001	316	31%	209	20%	27	3%	156	15%	10	1%	216	21%	86	8%	1,020
2002	335	31%	189	17%	27	2%	171	16%	11	1%	253	23%	95	9%	1,081
2003	319	33%	148	15%	26	3%	110	11%	16	2%	219	23%	125	13%	963
2004	311	32%	153	16%	17	2%	111	11%	14	1%	228	23%	138	14%	972
2005	330	37%	129	15%	19	2%	88	10%	2	<1%	198	22%	118	13%	884
2006 ⁴	292	42%	70	10%	10	1%	69	10%	3	<1%	169	24%	87	12%	700

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Heterosexual sex with partners with unknown risk and HIV status³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up⁴ 2006 data are preliminary

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Note: The category of “presumed heterosexual sex” is used in Massachusetts to re-assign people who are reported with no identified risk but who are known to have not reported any other risks except heterosexual sex with a partner of unknown HIV status or risk. Massachusetts uses this category to distinguish these cases from other undetermined cases about which we know less. Nationally, the Centers for Disease Control and Prevention categorizes “presumed heterosexual sex” cases as “no identified risk” (NIR). As such, comparisons of the presumed heterosexual category cannot be made to national data. Caution should be used in interpreting data for presumed heterosexual, as it is still not clear what the exposure risk is for people in this category. Although a person may not report other risk behaviors such as injection drug use or male-to-male sex to his/her health care provider, it does not necessarily mean that he/she has not engaged in them. There are many barriers to disclosing HIV risk behaviors in the health care setting such as a limited patient-provider relationship or stigma.

Table 9. Males diagnosed with HIV infection by exposure mode and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	MSM		IDU		MSM/ IDU		HTSX		Other		Pres. HTSX ²		Undeter- -mined ³		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	7,609	48%	5,033	32%	865	5%	565	4%	485	3%	724	5%	507	3%	15,788
1999	373	40%	274	30%	38	4%	66	7%	9	1%	117	13%	45	5%	922
2000	357	43%	170	21%	24	3%	66	8%	13	2%	133	16%	61	7%	824
2001	316	44%	149	21%	27	4%	61	8%	4	1%	110	15%	53	7%	720
2002	335	46%	132	18%	27	4%	56	8%	6	1%	120	16%	59	8%	735
2003	319	48%	105	16%	26	4%	44	7%	11	2%	86	13%	70	11%	661
2004	311	46%	100	15%	17	2%	44	6%	5	1%	106	16%	98	14%	681
2005	330	51%	98	15%	19	3%	27	4%	0	0%	99	15%	80	12%	653
2006 ⁴	292	57%	40	8%	10	2%	34	7%	1	<1%	81	16%	58	11%	516

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Heterosexual sex with partners with unknown risk and HIV status³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up⁴ 2006 data are preliminary

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

.Table 10. Females diagnosed with HIV infection by exposure mode and year of diagnosis: Massachusetts, before 1999, 1999–2006¹

	IDU		HTSX		Other		Pres. HTSX ²		Undeter- -mined ³		Total
	N	%	N	%	N	%	N	%	N	%	N
<1999	2,151	46%	1,479	32%	288	6%	609	13%	140	3%	4,667
1999	122	30%	129	32%	8	2%	127	31%	18	4%	404
2000	78	22%	130	36%	6	2%	130	36%	15	4%	359
2001	60	20%	95	32%	6	2%	106	35%	33	11%	300
2002	57	16%	115	33%	5	1%	133	38%	36	10%	346
2003	43	14%	66	22%	5	2%	133	44%	55	18%	302
2004	53	18%	67	23%	9	3%	122	42%	40	14%	291
2005	31	13%	61	26%	2	1%	99	43%	38	16%	231
2006 ⁴	30	16%	35	19%	2	1%	88	48%	29	16%	184

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² Heterosexual sex with partners with unknown risk and HIV status³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up⁴ 2006 data are preliminary

IDU = Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 11. People diagnosed with HIV infection by age at diagnosis: Massachusetts, before 1999, 1999–2006¹

	<13		13 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 to 44		45 to 49		50+		Total
Year	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	375	2%	258	1%	1,349	7%	3586	18%	5,092	25%	4,386	21%	2,817	14%	1,372	7%	1,220	6%	20,455
1999	13	1%	19	1%	59	4%	138	10%	283	21%	310	23%	237	18%	145	11%	122	9%	1,326
2000	10	1%	27	2%	62	5%	144	12%	208	18%	285	24%	209	18%	109	9%	129	11%	1,183
2001	6	1%	17	2%	46	5%	113	11%	198	19%	237	23%	178	17%	129	13%	96	9%	1,020
2002	8	1%	21	2%	75	7%	126	12%	186	17%	234	22%	188	17%	114	11%	129	12%	1,081
2003	10	1%	15	2%	57	6%	94	10%	169	18%	202	21%	172	18%	122	13%	122	13%	963
2004	11	1%	16	2%	61	6%	101	10%	145	15%	193	20%	179	18%	127	13%	139	14%	972
2005	1	<1%	10	1%	57	6%	93	11%	134	15%	150	17%	188	21%	132	15%	119	13%	884
2006 ²	3	<1%	17	2%	47	7%	78	11%	83	12%	130	19%	123	18%	103	15%	116	17%	700

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 12. Males diagnosed with HIV infection by age at diagnosis: Massachusetts, before 1999, 1999–2006¹

	<13		13 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 to 44		45 to 49		50+		Total
Year	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	207	1%	157	1%	853	5%	2,650	17%	3,901	25%	3,539	22%	2,349	15%	1,141	7%	991	6%	15,788
1999	6	1%	6	1%	35	4%	80	9%	207	22%	222	24%	177	19%	103	11%	86	9%	922
2000	6	1%	13	2%	29	4%	86	10%	146	18%	203	25%	153	19%	85	10%	103	13%	824
2001	3	<1%	11	2%	20	3%	78	11%	132	18%	184	26%	126	18%	93	13%	73	10%	720
2002	3	<1%	11	1%	44	6%	71	10%	122	17%	165	22%	137	19%	81	11%	101	14%	735
2003	5	1%	9	1%	36	5%	54	8%	113	17%	155	23%	120	18%	80	12%	89	13%	661
2004	3	<1%	6	1%	38	6%	62	9%	95	14%	151	22%	131	19%	92	14%	103	15%	681
2005	0	0%	6	1%	35	5%	69	11%	99	15%	120	18%	142	22%	101	15%	81	12%	653
2006 ²	1	<1%	9	2%	30	6%	56	11%	55	11%	102	20%	98	19%	81	16%	84	16%	516

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 13. Females diagnosed with HIV infection by age at diagnosis: Massachusetts, before 1999, 1999–2006¹

	<13		13 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 to 44		45 to 49		50+		Total
Year	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	168	4%	101	2%	496	11%	936	20%	1,191	26%	847	18%	468	10%	231	5%	229	5%	4,667
1999	7	2%	13	3%	24	6%	58	14%	76	19%	88	22%	60	15%	42	10%	36	9%	404
2000	4	1%	14	4%	33	9%	58	16%	62	17%	82	23%	56	16%	24	7%	26	7%	359
2001	3	1%	6	2%	26	9%	35	12%	66	22%	53	18%	52	17%	36	12%	23	8%	300
2002	5	1%	10	3%	31	9%	55	16%	64	18%	69	20%	51	15%	33	10%	28	8%	346
2003	5	2%	6	2%	21	7%	40	13%	56	19%	47	16%	52	17%	42	14%	33	11%	302
2004	8	3%	10	3%	23	8%	39	13%	50	17%	42	14%	48	16%	35	12%	36	12%	291
2005	1	<1%	4	2%	22	10%	24	10%	35	15%	30	13%	46	20%	31	13%	38	16%	231
2006 ²	2	1%	8	4%	17	9%	22	12%	28	15%	28	15%	25	14%	22	12%	32	17%	184

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis² 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 14. People diagnosed with HIV infection by Health Service Region (HSR) ¹: Massachusetts, before 1999, 1999–2006²

	Boston		Central		Metro West		Northeast		Southeast		Western		Prisons³		Total⁴
Year	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
<1999	6,931	34%	1,791	9%	2,650	13%	2,765	14%	2,899	14%	2,371	12%	1,041	5%	20,455
1999	379	29%	95	7%	160	12%	189	14%	193	15%	193	15%	116	9%	1,326
2000	379	32%	90	8%	160	14%	154	13%	179	15%	155	13%	66	6%	1,183
2001	320	31%	67	7%	120	12%	162	16%	165	16%	138	14%	48	5%	1,020
2002	365	34%	107	10%	150	14%	158	15%	146	14%	113	10%	42	4%	1,081
2003	315	33%	102	11%	124	13%	155	16%	116	12%	123	13%	28	3%	963
2004	294	30%	85	9%	121	12%	160	16%	129	13%	148	15%	34	3%	972
2005	291	33%	72	8%	133	15%	140	16%	106	12%	116	13%	26	3%	884
2006 ⁵	209	30%	70	10%	90	13%	107	15%	107	15%	97	14%	19	3%	700

¹ Reflects the health service region of a person's residence at the time of report (not necessarily current residence); See Epidemiologic Profile General Appendices, Health Service Region Maps, available at http://www.mass.gov/dph/aids/research/profile2005/app5_hrs_maps.pdf for configuration of health service regions

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ HSRs are regions defined geographically to facilitate targeted health service planning. While prisons do not constitute an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. Prisons include only persons who were diagnosed with HIV/AIDS while in a correctional facility

⁴ Totals include 9 people of unknown HSR

⁵ 2006 data are preliminary

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

People diagnosed with HIV infection within the three-year period 2004–2006

Table 15. People diagnosed with HIV infection by gender and race/ethnicity: Massachusetts, 2004–2006¹

Race/Ethnicity:	Male		Female	
	N	%	N	%
White Non-Hispanic	884	48%	130	18%
Black Non-Hispanic	456	25%	354	50%
Hispanic	460	25%	204	29%
Asian/Pacific Islander	36	2%	8	1%
Other/Unknown	14	1%	10	1%
Total	1,850	100%	706	100%

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis
 Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding); data as of 11/1/07

Table 16. People diagnosed with HIV infection by gender and exposure mode: Massachusetts, 2004–2006¹

Exposure Mode:	Male		Female	
	N	%	N	%
Male-to-Male Sex (MSM)	933	50%	N/A	N/A
Injection Drug Use (IDU)	238	13%	114	16%
MSM/IDU	46	2%	N/A	N/A
Heterosexual Sex	105	6%	163	23%
Other	6	<1%	13	2%
Total Undetermined	522	28%	416	59%
• Presumed Heterosexual Sex ²	286	15%	309	44%
• Undetermined ³	236	13%	107	15%
Total	1,850	100%	706	100%

¹ Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

² Heterosexual sex with partners with unknown risk and HIV status

³ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up

N/A = Not Applicable

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 17. People diagnosed with HIV infection by race/ethnicity¹ and place of birth: Massachusetts, 2004–2006²

Race/Ethnicity:	US		Puerto Rico/ US Dependency ³		Non-US		Total
	N	%	N	%	N	%	N
White NH	939	93%	4	<1%	71	7%	1,014
Black NH	396	49%	3	<1%	411	51%	810
Hispanic	235	35%	237	36%	192	29%	664
API	14	32%	0	0%	30	68%	44

¹ Data for American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis³ Ninety-seven percent of people diagnosed with HIV infection from 2004-2006 who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands and 2% were born in an unknown US dependency
NH = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 18. Males diagnosed with HIV infection by race/ethnicity¹ and place of birth: Massachusetts, 2004–2006²

Race/Ethnicity:	US		Puerto Rico/US Dependency ³		Non-US		Total
	N	%	N	%	N	%	N
White NH	824	93%	3	<1%	57	6%	884
Black NH	272	60%	3	1%	181	40%	456
Hispanic	160	35%	163	35%	137	30%	460
API	13	36%	0	0%	23	64%	36
All Males⁴	1,280	69%	169	9%	401	22%	1,850

¹ Data for American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis³ Ninety-seven percent of people diagnosed with HIV infection from 2004-2006 who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands and 2% were born in an unknown US dependency⁴ Totals include people of American Indian/Alaska Native and Other/Unknown race/ethnicity

NH = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 19. Females diagnosed with HIV infection by race/ethnicity¹ and place of birth: Massachusetts, 2004–2006²

Race/Ethnicity:	US		Puerto Rico/US Dependency ³		Non-US		Total
	N	%	N	%	N	%	N
White NH	115	88%	1	1%	14	11%	130
Black NH	124	35%	0	0%	230	65%	354
Hispanic	75	37%	74	36%	55	27%	204
All Females⁴	321	45%	75	11%	310	44%	706

¹ Data for American Indian/Alaska Native, Asian/Pacific Islander and Other/Unknown race/ethnicity are not presented due to small numbers

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ Ninety-seven percent of people diagnosed with HIV infection from 2004-2006 who were born in a US dependency were born in Puerto Rico, 1% were born in the US Virgin Islands and 2% were born in an unknown US dependency

⁴ Totals include people of American Indian/Alaska Native, Asian/Pacific Islander and Other/Unknown race/ethnicity
NH = Non-Hispanic

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 20. People diagnosed with HIV infection by race/ethnicity¹ and exposure mode: Massachusetts, 2004–2006²

Exposure Mode:	White NH		Black NH		Hispanic		API	
	N	%	N	%	N	%	N	%
MSM	620	61%	132	16%	157	24%	17	39%
IDU	132	13%	62	8%	154	23%	-- ³	-- ³
MSM/IDU	33	3%	5	1%	8	1%	-- ³	-- ³
HTSX	49	5%	103	13%	108	16%	6	14%
Other	4	<1%	8	1%	7	1%	0	0%
Total Undetermined	176	17%	500	62%	230	35%	18	41%
Pres. HTSX ⁴	91	9%	342	42%	150	23%	8	18%
Undetermined ⁵	85	8%	158	20%	80	12%	10	23%
Total	1,014	100%	810	100%	664	100%	44	100%

¹ Data for American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ Percentages calculated from a numerator of less than 5 and a denominator of less than 100 are not presented

⁴ Heterosexual sex with partners with unknown risk and HIV status

⁵ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up
NH = Non-Hispanic, API = Asian/Pacific Islander, MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 21. Males diagnosed with HIV infection by race/ethnicity¹ and exposure mode: Massachusetts, 2004–2006²

	White NH		Black NH		Hispanic		API	
Exposure Mode:	N	%	N	%	N	%	N	%
MSM	620	70%	132	29%	157	34%	17	47%
IDU	79	9%	42	9%	114	25%	-- ³	-- ³
MSM/IDU	33	4%	5	1%	8	2%	-- ³	-- ³
HTSX	23	3%	41	9%	39	8%	-- ³	-- ³
Other	2	<1%	1	<1%	3	1%	0	0%
Total Undetermined	127	14%	235	52%	139	30%	15	42%
Pres. HTSX ⁴	54	6%	146	32%	80	17%	6	17%
Undetermined ⁵	73	8%	89	20%	59	13%	9	25%
Total	884	100%	456	100%	460	100%	36	100%

¹ Data for American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis³ Percentages calculated from a numerator of less than 5 and a denominator of less than 100 are not presented⁴ Heterosexual sex with partners with unknown risk and HIV status⁵ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up
NH = Non-Hispanic, API = Asian/Pacific Islander, MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 22. Females diagnosed with HIV infection by race/ethnicity¹ and exposure mode: Massachusetts, 2004–2006²

	White NH		Black NH		Hispanic	
Exposure Mode:	N	%	N	%	N	%
IDU	53	41%	20	6%	40	20%
HTSX	26	20%	62	18%	69	34%
Other	2	2%	7	2%	4	2%
Total Undetermined	49	38%	265	75%	91	45%
Pres. HTSX ³	37	28%	196	55%	70	34%
Undetermined ⁴	12	9%	69	19%	21	10%
Total	130	100%	354	100%	204	100%

¹ Data for American Indian/Alaska Native, Asian/Pacific Islander and Other/Unknown race/ethnicity are not presented due to small numbers² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis;³ Heterosexual sex with partners with unknown risk and HIV status⁴ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up
NH = Non-Hispanic, IDU = Injection Drug Use, HTSX = Heterosexual Sex, Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 23. People diagnosed with HIV infection by Health Service Region (HSR)¹ and gender: Massachusetts, 2004–2006²

Health Service Region:	Male		Female		Total
	N	%	N	%	N
Boston HSR	631	79%	163	21%	794
Central HSR	141	62%	86	38%	227
Metro West HSR	253	74%	91	26%	344
Northeast HSR	263	65%	144	35%	407
Southeast HSR	257	75%	85	25%	342
Western HSR	233	65%	128	35%	361
Prisons ³	71	90%	8	10%	79
MA Total	1,850	72%	706	28%	2,556

¹ Reflects the health service region of a person's residence at the time of report (not necessarily current residence); See Epidemiologic Profile General Appendices, Health Service Region Maps, available at http://www.mass.gov/dph/aids/research/profile2005/app5_hrs_maps.pdf for configuration of health service regions

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ HSRs are regions defined geographically to facilitate targeted health service planning. While prisons do not constitute an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. Prisons include only persons who were diagnosed with HIV/AIDS while in a correctional facility

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 24. Percentage distribution of people diagnosed with HIV infection by Health Service Region (HSR)¹ and race/ethnicity: Massachusetts, 2004–2006²

	White NH	Black NH	Hispanic	API	AI/AN	Total
Boston HSR	38%	39%	21%	1%	0%	794
Central HSR	37%	33%	29%	1%	<1%	227
Metro West HSR	50%	31%	14%	3%	0%	344
Northeast HSR	37%	31%	29%	3%	<1%	407
Southeast HSR	56%	26%	17%	1%	<1%	342
Western HSR	27%	21%	50%	2%	0%	361
Prisons ³	23%	43%	34%	0%	0%	79
MA Total	40%	32%	26%	2%	<1%	2,556

¹ Reflects the health service region of a person's residence at the time of report (not necessarily current residence); See Epidemiologic Profile General Appendices, Health Service Region Maps, available at http://www.mass.gov/dph/aids/research/profile2005/app5_hrs_maps.pdf for configuration of health service regions

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ HSRs are regions defined geographically to facilitate targeted health service planning. While prisons do not constitute an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. Prisons include only persons who were diagnosed with HIV/AIDS while in a correctional facility

NH = Non-Hispanic, API = Asian/Pacific Islander, AI/AN = American Indian/Alaska Native

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Table 25. Percent of people diagnosed with HIV infection by Health Service Region (HSR)¹ and exposure mode: Massachusetts, 2004–2006²

Health Service Region:	MSM	IDU	MSM/ IDU	HTSX	Other	Pres. HTSX ³	Undet. ⁴	Total
Boston HSR	50%	8%	2%	6%	1%	20%	13%	794
Central HSR	24%	22%	<1%	15%	1%	30%	7%	227
Metro West HSR	38%	9%	3%	10%	0%	24%	15%	344
Northeast HSR	27%	10%	2%	13%	1%	29%	18%	407
Southeast HSR	43%	11%	1%	10%	1%	19%	15%	342
Western HSR	23%	26%	2%	16%	1%	22%	11%	361
Prison ⁵	9%	37%	1%	11%	0%	30%	11%	79
MA Total	37%	14%	2%	10%	1%	23%	13%	2,556

¹ Reflects the health service region of a person's residence at the time of report (not necessarily current residence); See Epidemiologic Profile General Appendices, Health Service Region Maps, available at

http://www.mass.gov/dph/aids/research/profile2005/app5_hrs_maps.pdf for configuration of health service regions

² Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis

³ Heterosexual sex with partners with unknown risk and HIV status

⁴ Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up

⁵ HSRs are regions defined geographically to facilitate targeted health service planning. While prisons do not constitute an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. Prisons include only persons who were diagnosed with HIV/AIDS while in a correctional facility

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex; Undet. = Undetermined

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 11/1/07

Profile of people testing for HIV at publicly-funded sites

Technical Notes:

Program utilization data for HIV/AIDS prevention services describe people who utilize these services and who may be at risk for HIV infection. Data from HIV testing programs can be used to describe demographics and HIV risk behavior in a population. The following tables contain data on clients utilizing state-funded counseling and testing sites. These settings include community health centers, hospitals, jails, and sexually transmitted disease clinics. An estimated 30% of people who get tested for HIV infection in Massachusetts get tested at one of these sites; therefore, these data are not representative of all people tested for HIV infection in Massachusetts. It is important to note that the data presented in this section represent tests performed and not individual clients; therefore the data may contain more than one test for some people.

Table 26. Number and percent of positive HIV tests¹ by gender, race/ethnicity, and age of client: Massachusetts, 2006			
HIV Tests by Gender of Client:	Total Tests	Total Positive Results	Percent Positive
Male	30,491	304	1.0%
Female	16,804	136	0.8%
Unknown ²	308	4	1.3%
HIV Tests by Race/Ethnicity of Client:	Total Tests	Total Positive Results	Percent Positive
White	19,889	101	0.5%
African-American	8,547	123	1.4%
Latino	12,509	152	1.2%
Asian/Asian-American	1,126	5	0.4%
American Indian/Aleutian/Eskimo	159	1	0.6%
Haitian	844	10	1.2%
Brazilian	1,036	13	1.3%
Portuguese	702	4	0.6%
Cape Verdean	856	5	0.6%
Other	1,363	23	1.7%
Unknown ²	572	7	1.2%
HIV Tests by Age of Client, in Years:	Total Tests	Total Positive Results	Percent Positive
Under 13	112	1	0.9%
13 to 19	3,945	4	0.1%
20 to 24	9,894	43	0.4%
25 to 29	8,948	64	0.7%
30 to 34	6,033	54	0.9%
35 to 39	5,714	77	1.3%
40 to 49	8,559	147	1.7%
50+	3,856	49	1.3%
Unknown ²	542	5	0.9%
Total	47,603	444	0.9%
¹ Tests performed at publicly funded HIV counseling and testing sites. (People also test for HIV at non-publicly funded sites for whom data are not represented in this table)			
² Unknown indicates that the data were missing or unreadable			
³ Data collected on possible exposure on the C&T report form were aggregated using the CDC risk hierarchy in order to make these data more comparable to the HIV/AIDS case data			
Data Source: MDPH HIV/AIDS Bureau HIV Counseling and Testing Program. data as of 11/1/07			

Technical Notes:

The following tables include data about number of sexual partners and condom use as reported by Massachusetts residents through anonymous telephone interviews in 2005 and 2006. This ongoing random-digit-dial telephone survey, the Behavioral Risk Factor Surveillance System (BRFSS), covers a broad range of topic areas (including risk related to sexual activity) and is part of a CDC-funded national survey program.

Sex with multiple partners has historically been correlated with other predictors of HIV transmission. Reducing numbers of sexual partners has been an HIV/STD prevention intervention goal, as has increasing condom use. Data regarding the prevalence of each of these behaviors follows.

Table 27. Number of sexual partners in past year¹ among adult BRFSS respondents ages 18–64 years: Massachusetts, 2005–2006				
	0 Partners	1 Partner	2 + Partners	N²
Total:	17%	74%	9%	6,237
Age in Years:	0 Partners	1 Partner	2 + Partners	N
18-24	24.0%	49.6%	26.4%	386
25-34	8.2%	83.0%	8.9%	1,031
35-44	9.2%	84.4%	6.4%	1,636
45-64	22.4%	74.2%	3.4%	3,109
Sex:	0 Partners	1 Partner	2 + Partners	N
Male	14.1%	73.5%	12.5%	2,493
Female	19.0%	75.5%	5.5%	3,744
Race/Ethnicity:	0 Partners	1 Partner	2 + Partners	N
White NH	16.0%	76.2%	7.9%	4,920
Black NH	17.4%	65.5%	17.0%	334
Hispanic	20.0%	65.0%	15.0%	679
Asian	22.8%	69.6%	7.6%	103
NH= Non-Hispanic ¹ "Number of sexual partners in past year" is a state-added question administered to a sub-sample of BRFSS respondents. ² Only respondents with known values are included in this table. Column sub-totals may not equal overall total due to missing values. Data Source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2005-2006				

Table 28. Number of sexual partners in the past year¹, male BRFSS respondents ages 18–64: Massachusetts, 2005–2006				
	0 Partners	1 Partner	2+ Partners	N²
Total Males	436	1,785	272	2,493
Age in Years:	0 Partners	1 Partner	2+ Partners	N
18-24	28.7%	36.3%	35.0%	156
25-34	9.7%	78.3%	12.0%	347
35-44	6.1%	83.9%	10.0%	663
45-64	15.5%	79.1%	5.3%	1,304
Race/Ethnicity³:	0 Partners	1 Partner	2+ Partners	N
White NH	14.3%	75.4%	10.3%	2,031
Black NH	10.5%	66.9%	22.5%	127
Hispanic	14.0%	60.8%	25.2%	209
Sex of Partner⁴:	0 Partners	1 Partner	2+ Partners	N
Same Sex	Not Applicable	57.1%	42.9%	93
Opposite Sex	Not Applicable	86.9%	13.1%	1,939
NH= Non-Hispanic ¹ "Number of sexual partners in past year" is a state-added question administered to a sub-sample of BRFSS respondents. ² Only respondents with known values are included in this table. Column sub-totals may not equal overall total due to missing values. ³ Data for Asian is not presented due to small numbers ⁴ Only asked of sexually active adults Data source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2005-2006				

Table 29. Number of sexual partners in the past year¹, female BRFSS respondents ages 18–64 Massachusetts, 2005–2006				
	0 Partners	1 Partner	2+ Partners	N²
Total Females	995	2,599	150	3,744
Age in Years:	0 Partners	1 Partner	2+ Partners	N
18-24	19.6%	61.9%	18.4%	230
25-34	6.7%	87.2%	6.0%	684
35-44	12.5%	85.0%	2.5%	973
45-64	29.9%	68.9%	1.2%	1,805
Race/Ethnicity³:	0 Partners	1 Partner	2+ Partners	N
White NH	17.6%	77.0%	5.4%	2,889
Black NH	24.5%	64.1%	11.4%	207
Hispanic	26.2%	69.4%	4.4%	470
Sex of Partner⁴:	0 Partners	1 Partner	2+ Partners	N
Same sex	Not Applicable	85.6%	14.4%	55
Opposite sex	Not Applicable	94.0%	6.0%	2,675
NH= Non-Hispanic ¹ "Number of sexual partners in past year" is a state-added question administered to a sub-sample of BRFSS respondents. ² Only respondents with known values are included in this table. Column sub-totals may not equal overall total due to missing values. ³ Data for Asian is not presented due to small numbers ⁴ Only asked of sexually active adults Data source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2005-2006				

Table 30. Condom use at last sexual encounter, BRFSS respondents ages 18–64¹: Massachusetts, 2005–2006		
	% Used Condom	Total N²
Total:	23%	4,796
Sex:	% Used Condom	Total N
Male	23.8%	2,058
Female	22.9%	2,738
Race/Ethnicity³:	% Used Condom	Total N
White NH	20.5%	3,821
Black NH	42.9%	249
Hispanic	36.9%	506
Number of Partners:	% Used Condom	Total N
1	19.3%	4,339
2	49.6%	234
3+	58.0%	184
Sex of Partner:	% Used Condom	Total N
Same Sex – Male	49.9%	95
Opposite Sex – Male	22.7%	1,950
Same Sex – Female	0.4%	55
Opposite Sex – Female	22.9%	2,669
NH= Non-Hispanic ¹ Only asked of sexually active adults ² Only respondents with known values are included in this table. Column sub-totals may not equal overall total due to missing values. ³ Data for Asian is not presented due to small numbers Data Source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2005-2006		

Table 31. Ever tested for HIV, BRFSS respondents age 18–64: Massachusetts, 1994–2006

Year:	Total N ¹	% Ever Tested for HIV
1994	2,595	30.0%
1995	2,429	36.7%
1996	2,659	38.7%
1997	2,718	46.1%
1998	3,840	42.3%
1999	5,605	46.2%
2000	5,618	47.8%
2001	5,787	46.4%
2002	5,906	47.0%
2003	6,281	46.7%
2004	6,454	46.2%
2005	6,508	41.4%
2006	8,751	36.8%

¹ This question was one of the core federal questions posed to all respondents to the annual BRFSS between the ages of 18-64. Respondents with missing values for this item were not included in this table.

Data Source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 1994-2006

Table 32. Ever tested for HIV by number of sexual partners in past year¹, BRFSS respondents age 18–64: Massachusetts, 2005–2006

	Total N ²	% Ever Tested for HIV
Total:	6,064	41.3%
Number of Partners:	Total N	% Ever Tested for HIV
0	1,362	28.6%
1	4,285	41.4%
2	232	53.6%
3+	185	54.7%

¹ "Number of sexual partners in past year" is a state-added question administered to a sub-sample of BRFSS respondents.

² Total number of participants that responded to both number of sexual partners and ever tested for HIV.

Data Source: Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2005-2006